

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

***Specification***

3. The disclosure is objected to because of the following informalities. Appropriate correction is required.

The specification lacks the appropriate headings for a disclosure. See MPEP 608.01(a).

The specification should be self contained without referring to the claims. For example, on page 1, line 32.

***Claim Objections***

4. Claims 1-22 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 3, the phrase “the object or the material” should be changed to – an object or a material --.

In claim 2, line 5, the word – a – should be inserted before the word “low”. In line 9, the word “sideband” should be changed to – sidebands – to provide proper antecedent basis.

In claim 3, line 6, the phrase “the position” should be changed to -- a position --. In line 6, the word -- the -- should be inserted before the word "defect".

In claim 4, line 4, the phrase “the object or the material” should be changed to – an object or a material --.

In claim 5, line 3, the phrase “the contactless transfer of sound energy” should be changed to – a contactless transfer of sound energy --. In line 5, the phrase “transmitter

and object or transmitter and material" should be changed to – the transmitter and the object or the transmitter and the material --.

In claim 10, line 3, the phrase "consists of part of the object or the material" is not clearly worded. Please clarify.

In claim 15, line 2, the word – the – should be inserted before the word "transmitter". In line 3, the word – the – should be inserted before the word "receiver".

In claim 18, line 6, the word – the – should be inserted before the word "receiver".

#### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 9, 11 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 9, lines 3-4, the phrase "the signal beam" lacks antecedent basis.

In claim 11, lines 2-3, the phrase "the transmitter element" lacks antecedent basis.

In claim 19, lines 3-4, the phrase "the signal" lacks antecedent basis. There is a "sound wave" from the transmitter, not of a "signal".

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-22 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,880,379 (Hedberg et al.).

With regards to claims 1-3, Hedberg et al. discloses a method and device for detecting damage in material or objects comprising, as illustrated in Figures 1-20, a signal source 2,16 connected to a transmitter 10 for generating a resonant sound wave with an object or a material 4; a receiver 12 for receiving a measurement signal from the object or the material connected to a measurement signal processing and analyzing apparatus 14 wherein the transmitter is adapted to generate a sound wave in a small area in the object or the material and the measurement signal processing and analyzing apparatus is adapted to detect damage or defects in the object or in the material by the use of Slow Dynamics. Hedberg et al. further discloses sending two signals of different high frequencies into the object or into the material as a result of the non-linearity of the object or the material to create a third frequency delivered to the object or to the

material; testing a unit to form a damage position indicating curve that indicates a position of the damage or the defect. (See, column 7, line 26 to column 9, line 8).

With regards to claim 4, the claim is commensurate in scope with claim 1 and is rejected for the same reasons as set forth above.

With regards to claims 5-15 and 18-22, Hedberg et al. further discloses the type and well known configuration of the transmitter (i.e. contactless transfer of sound energy to the object or the material, a plurality of transmitter elements; movable transmitter); the type and well known configuration of the receiver (i.e. contactless transfer, a plurality of receivers, piezoelectric sensor). (See, column 5, lines 54-63; column 7, lines 34-59).

With regards to claims 16-17, Hedberg et al. suggests the measurement signal processing and analyzing apparatus includes an oscilloscope; a computer aiding the signal source and the measurement signal processing and analyzing apparatus. (See, column 7, lines 34-42).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The reference cited is related to an ultrasound spectroscopy for producing qualities of nonlinear elastic phenomena such as slow dynamic elastic behavior.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helen C. Kwok/  
Primary Examiner, Art Unit 2856  
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